RESPONSE ACQUISITION OF INDIAN AND NON-INDIAN JAIL INMATES

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Numerous investigations have been carried out in attempts to evaluate intergroup differences in performance which might be attributed to ethnicity. The central focus of such studies appears to have been the adoption of some notion of genetic differences between peoples and that such genetic or inherited physiological characteristics are the significant factors underlying behavioural variance. Recent studies of the long term effects of environment deprivation (Jordan, 1933; Neff, 1938; Nissen, Chow & Semmes, 1951; and Melzack, 1954), however, suggested that an alternative interpretation of differences between groups would be to attribute them to environmental factors. Studies which have investigated differences between attitudes and values of ethnic groups have demonstrated that when traditional cultural differences have been reduced by processes of acculturation, socio-economic background becomes the main distinguishing factor between ethnic groups.

The importance of acculturation has been suggested by Snider (1961). He postulated that differences between Indian-White performance on achievement tests would decrease with increased acculturation of the Indian group into White society. Performance on two achievement tests of Indian and White children from one Idaho community was compared. He found that the performance of the two groups was similar over the majority of the test categories. Snider further suggested that the absolute differences found between Indian and White Ss on effectiveness of expression, and achievement in mathematics and science, were smaller than that reported in previous studies. The data, therefore, supported his contention that as Indians become acculturated, performance

differences between Indian and White Ss become nonsignificant. Unfortunately, Snider failed to provide data with which to assess the degree of acculturation of the Indian group so that direct assessment of this parameter is not possible.

Partial support, however, for Snider's thesis of acculturation has been provided by Zenter (1962). Zenter employed four questions to investigate the attitudes towards graduation from high school held by four groups: Oregon Indians, Oregon Whites, Alberta Indians, and Alberta Whites. Attitudes towards graduation from high school were found to be related to parental attitude, to nationality (American versus Canadian), and ethnicity (Indian versus White). Interpretation based solely on the verbal report of Ss to four questions, however, would seem to be hazardous without information regarding the actual frequency of high school and college attendance of Indians and Whites. The differences associated with nationality were interpreted by Zenter in terms of environmental conditions, pointing to the comparatively urban environment of the Oregon sample and to the rural environment of the Alberta sample. Zenter's interpretation of ethnic differences in attitude, however, is difficult to accept. Zenter based his argument on the comparison between the combined scores of the Oregon and Alberta Indian groups and the combined scores of the Oregon and Alberta White groups. The difference favouring the White group in this analysis, however, might also be attributed to environmental factors. Indeed, a chi-square analysis of his data comparing Oregon Indians and Alberta Whites for each of the four questions failed to

indicate any significant differences.

The influential role played by the environment, particularly that of the home, has been investigated by French (1963). French argued that attitudes of Metis children are determined largely by home environment rather than by "Indianess", education, age, or geographic location of the home. Metis, Indian and White children from both rural and urban areas and from public and high schools were studied. Each S completed a short questionnaire, wrote a number of self-referent statements and named occupations. Data from the short questionnaire suggest that the achievement motivation and aspirations of the Metis children were lower than those of White children. The Metis children's aspirations corresponded with Metis mothers' expectations of their childrens occupational achievement. Metis children also tended to give less favourable self-referent statements. French suggested that it might be due to the awareness of low socio-economic status. The differences in these two measures were found to be unrelated to education or ethnicity, and closely related to the parents' attitudes and occupations. French interpreted his findings as supporting his hypothesis that home environment plays the most important role. He also reported that the occupations named by the children were highly correlated with their fathers' occupations. His use of a spurious data transformation, however, invalidates this part of his study.

The importance of socio-economic status has been demonstrated by Buckley, Kew, and Hawley (1963). In a survey of socio-economic conditions of Northern Saskatchewan, Buckley et al reported that with

the introduction of modern technology and education, Indians have acquired an increasing awareness of the material benefits and values of the White culture. Therefore, they state that, "Today, there is no group of Indians or Metis in the North whose culture is purely 'Indian'" (Buckley, Kew & Hawley, 1963, P.10). They also suggested that presently the main identifying characteristic of the North is poverty.

Two recent studies of Indian children of Northern Saskatchewan (Sydiaha & Rempel, 1964; Harding, 1964) have provided supporting evidence for this suggestion. Sydiaha and Rempel (1964), using a modified TAT reported that Metis Children were more aware of poverty than were White children. Measures of aspiration level and of conflict with authority did not differentiate between the two ethnic groups but appeared to reflect differences due to geographic location and socio-economic status. They concluded that attitudes and motives were, therefore, related to socio-economic background rather than to ethnicity.

In an attempt to validate the Sydiaha-Rempel study, Harding (1964) employed the same modified TAT test together with a questionnaire designed to elicit information regarding attitudes towards work, family, school, authority, and ethnic association. Harding tested school children in three Indian communities, Indian and White inmates of a provincial jail and students at a Vocational Training School. Contrary to Sydiaha and Rempel's Findings, he reported that Indian and Metis were less aware of poverty than were non-Indians. One interesting finding, related to the acculturation hypothesis, was that when living

in close proximity to Whites, Metis tended to evidence White values and attitudes. Harding also observed that Indians and Metis had motivations corresponding to Whites' although their attitudes towards parents and education were more positive than the comparable attitudes of the Whites. Interpretation of his data, however, is difficult because the TAT and questionnaire information often contradicted one another.

The above studies indicate that environmental influences may have significant effects upon attitudes and on achievement aspiration. Ethnicity, on the other hand, appears to be a less significant factor regarding attitudes and behaviour especially when acculturation has taken place. It must be noted, however, that none of the studies used objective performance tests to assess the validity of their questionnaire or projective measures. Consequently the information given by their data is limited in its application and in some cases its comparative use has been further restricted by an uncritical choice and description of populations investigated. Therefore, as Bindra (1959) has stressed, there is a need for objective performance measures with which to assess the relationship between environment and attitudes.

If it may be assumed that cultural integration is related to environment, then learning tasks might provide information with which to assess the association between acculturation and environment. It has been recognised that previous experience plays an important role in late learning. Rapaport (1943), for example, suggested that previous experiences influence both learning and retention. The prediction has been confirmed by Levine and Murphy (1943). They reported that

attitudinal bias facilitates the learning and retention of congruent verbal material and they attributed this facilitation effect to processes of selective perception and selective recall. A similar study by Postman and Murphy (1943) investigated the effects of attitudes upon associative memory. They found that associations for which Ss possessed an extreme emphatic attitude were formed more speedily than associations for which Ss had weaker emphatic attitudes. A similar but less marked difference was observed in favour of acceptable as against unacceptable associations.

Lecky (1945), following an argument similar to that of Rapaport (1943), developed a self-consistency principle. It stated that ideas consistent with those already held would be immediately assimilated whereas ideas inconsistent with the S's personality and concepts would be resisted due to the individual's effort to maintain his integrity and unity. Evidence to support Lecky's theory was provided by Bills (1952). He found that students of a counselling course who held values similar to those of the instructor towards counselling made higher grades even though the common values were not included in the examination material.

The influence of such concept biases on performance has also been demonstrated by Taft (1954). Taft presented Negro and White Ss with a passage favourable to Negroes and reported that delayed recall by Negro Ss was superior to that of White Ss and that the Negro Ss showed less memory distortion of the learned material than did the Whites.

Distortions in perception and memory processes have also been

attributed to the influences of personal value systems. Postman, Bruner, and McGinnies (1948) have presented data which suggest that tachistoscopic word recognition thresholds are related to the value profiles of the Ss. Solomon and Howes (1951) controlled for word frequency and reported a significant relationship between low frequency words and value rank in recognition thresholds. A more marked effect of value correlation was demonstrated by Postman and Schneider (1951). They found that values were significantly related to the occurence of recall of words previously exposed in a tachistoscope. Word frequency, on the other hand, was an unimportant parameter. They argued that under conditions of reduced "stimulus constraint", as in the recall situation, the effects of response bias can most easily be demonstrated.

The contribution of general values to selective responding was further demonstrated in a study, important for its methodology, by Havron and Cofer (1957). They presented Ss with two lists of paired-associates drawn from a previous study (Havron, Nordile & Cofer, 1957). The two lists had identical stimulus words and the response words in one list were related to religious values of the Allport-Vernon Study of Values, and the response words in the other list were related to political-economic values. Performance on the paired-associate learning task was found to correlate significantly with Ss scores derived from the Allport-Vernon Study of Values. Learning was more efficient when the response words were consistent with S's value orientation than when they conflicted with his biases. The authors argued that this was

due to the influence of "a pre-experimentally existing availability" of attitude related or congruent words (Havron & Cofer, 1957, P.98).

In a situation having similar reduced "stimulus constraint", Newbigging (1960) investigated the influence of personal values on pseudo-perceptual recognition. He found that Ss gave response words related to their dominant value areas more frequently than responses related to their non-dominant areas. He suggested that personal values might have significant influences on recognition thresholds in terms of response strength or response dominance. Response dominance was found to play an equally influential role in learning as well as in recognition (Underwood & Schulz, 1960). They reported that when the learned material varied in dominance level, the rate of learning also varied in relation to the dominance level of the stimuli. Underwood and Postman (1960), on the other hand, suggested that response strength is a function of past experience which functions as sources of proactive inhibition when acquiring new learning. They hypothesized that as a result of competition between previously acquired habits and new learning, the dominant response will be the emergent response at the time of recall.

Thus the recognition and retention of "contravaluant material" seem to reflect S's attitudes and his environmental background. The efficacy of different reinforcers on different Ss might also be reflections of their behaviour and environment. Two recent reviews of verbal conditioning (Krasner, 1958; Salzinger, 1959) have pointed out that the incentive value of reinforcers is an important determinant

of behaviour. Studies using various reinforcers have reported different effects. Greenspoon (1955) found that "mmm-hmm" and "huh-uh" had differential influences on the output of Ss' responses. Stevenson and Snyder (1960), using a marble sorting task to study the efficacy of various combinations of three types of reinforcement for mentally retarded children, reported that punishment-punishment was the least effective and neutral-neutral was the most effective. The effect of neutral reinforcement, however, was not clearly explained. Prouty (1960), on the other hand, suggested that positive verbal reinforcement and negative verbal reinforcement have equal reinforcement values while Crowne and Strickland (1961) found that negative verbal reinforcement produced less consistent results and greater variability of responses than did positive verbal reinforcement.

Therefore, it is becoming increasingly apparent that in order to interpret differences in behaviour, attention should be paid to the incentive value of the reinforcers employed. Skinner (1954) stressed the motivational aspects of the reinforcing stimulus and several studies had since demonstrated that specific reinforcers have different incentive values for different groups of people. Studies by Taffel (1955), Eysenck (1959), Binder and Salop (1961), and Cairns (1961) have reported that the efficacy of verbal reinforcement in conditioning behaviour is dependent on the personality of the Ss. Lindsley (1962), has also observed that reinforcer efficacy was associated with the mental condition of psychotic patients. A five-cent piece, for example, was a more effective reinforcer for patients whose conditions

were improving than a candy bar which, however, was an efficient reinforcer for patients with severe chronic symptoms.

The differential efficacy of reinforcers across different groups of Ss has also been demonstrated by Chambers (1962). He reported that the efficacy of positive verbal reinforcement was low in subject groups who were institutionalized when he compared the performance of acute and chronic psychotic patients, unemployed normals, and penitentiary inmates on verbal conditioning, GSR conditioning, and salivation conditioning. Significant acquisition of the verbal responses was reported for acute psychotics (first admissions tested soon after admission), and unemployed normals whereas chronic psychotics and penitentiary inmates did not exhibit a verbal response bias. All groups, however, conditioned significantly under GSR and salivation procedures. Chambers interpreted these results as reflecting differences in reinforcer efficacy across groups and suggested that efficacy was a function of the environmental conditions.

Following a similar hypothesis, Davitt (1964) studied the effects of four types of reinforcers: verbal reward, verbal punishment, concrete reward, and concrete punishment, on concept conditioning with mentally retarded children of different age ranges. Older Ss were observed to be more responsive to positive reinforcement conditions than were the younger children while concrete and verbal reinforcement appeared to have equal reinforcer values. Davitt suggested that positive reinforcement was more effective with older children because they had been exposed to positive reinforcement more often than were

younger children, and therefore, the former had associated positive reinforcement with favourable experiences.

Thus it appears that not only do various reinforcers have differential effects on performance but that particular reinforcers may elicit different reactions from different subject groups. The above studies have suggested that the differential reactions to any specific reinforcer might reflect the differences between individuals and differences in their environmental background. Other studies have also suggested that learning and retention of value relevant material are similarly dependent on environment as well as past experiences. Therefore, it might be assumed that the two techniques combined would provide information with which to examine the basis for inferences about the environment and past experiences of the Ss.

Statement of Problem

The purpose of this research was to evaluate response acquisition of Indian Ss relative to non-Indian Ss and to examine the relationships between questionnaire and performance data. A questionnaire, based on Harding's (1964) study, was used to evaluate Ss' attitudes towards work authority, aspirations, family and the like. Performance measures were also employed in order to provide data with which to assess whether attitudinal differences have significant behavioural consequences. In order to assess rural-urban biases, a paired-associate task similar to that designed by Havron and Cofer (1957) was used. An attempt was also made using a verbal conditioning technique (Taffel, 1955) to evaluate whether or not the two groups would perform differentially under positive and negative verbal reinforcement.

Method

Subjects

The Ss were selected from 105 male inmates of a provincial jail who volunteered for the study. Seventy-seven Ss were selected according to the criteria: that Ss' age at time of testing be under 40, and that they had always maintained official residence in one of the Prairie Provinces. The Ss comprised 39 Indians and Metis and 38 non-Indians. A S of Indian parentage was considered Indian, a S who was of both Indian and non-Indian heritage was considered a Metis, and a S reporting no Indian ancestry was considered non-Indian.

Procedure and Apparatus

The general design required that each S complete a personal data sheet and a questionnaire during a group testing session after which each S was seen individually and was administered a paired-associate learning and a verbal conditioning task.

Personal Data. The personal data sheet (see Appendix A) secured information as to the place S grew up in, his religion, previous employment, educational level, and parents' racial origins.[1] Supplementary data pertinent to the offence that S was under sentence for were obtained from the records (see Appendix B).

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[1]Information given by Ss regarding their educational level and racial background was checked against that given by the official records and whenever there was a discrepancy between the two sources, the information from the official records was considered correct.

Questionnaire. The questionnaire (see Appendix C) was composed of 68 items arranged in random order. It was based on a modification of Harding's questionnaire (1964) with additional items taken from the questionnaires of Sydiaha (1964) and Gleitman and Greenbaum (1961). Eight attitudinal areas were included, attitudes towards: work, money, family, education, sharing with others, ethnic association, self-assertion, and institutional and social controls. These concepts were selected from the stereotyped descriptions used to describe Indians by a number of authors. Strong group unity, group solidarity, and cooperative characteristics, for example, were attributed to the Plain Indians by Barnouw (1950) following his study of the differences between Chippewa and other Indian groups in Wisconsin. Kerchoff (1959), on the other hand, suggested that measures of associational preferences were important when he found that high need-achievement was related to strong White identification. As the Indians were also in the process of acculturating to the norms and values of a North American society, they could be regarded as similar to immigrant groups. Therefore, items from a study of attitudes of an immigrant Hungarian refugee group within the United States (Gleitman & Greenbaum, 1961) were included. There were items concerning personal background, personal values, and personality traits such as self-assertion and rejection of social controls, and traditionalism with regards to family and country.

Ss had to rate each questionnaire item on a five-point scale ranging from "Strongly agree" to "Strongly disagree". No time limit was imposed on the completion of the questionnaire.

Paired-Associate Learning. Two lists (see Appendix D) of 10 paired-associates each were constructed in an AB, AB' design similar to that of Havron and Cofer (1957). The two lists consisted of identical stimulus words while the response words for one list were rural in connotation and the response words for the other list were urban in connotation.

The selection of the associates were based on the ratings of 37 students in a first year Psychology class. The students were presented with triplets, each consisting of one stimulus word paired with two response words, and were asked to rate the triplets according to the criterion of whether each response word, as paired with the stimulus word, has either rural, urban, or both connotations. Only those triplets with a rural response word and an urban response word were included in the paired-associate lists. To ensure that they are not common associations, the response words were checked against free associations to the stimulus words given by the same group of students. In addition, the stimulus and response words were checked against the Thorndike-Lorge general word count (1944) and all were found to be high frequency words.

The paired-associates were typed on a continuous roll of white paper, 3" wide, for presentation using a Lafayette memory drum (Model No. 303) in a 2 : 2 sec. rate.

Each S was presented with both lists in a counterbalanced order. Three consecutive presentations of each list were given without pause between list presentations so that it appeared as one list of 30

paired items. The order in which the paired-associates appeared differed randomly for each presentation but was constant across Ss. After three presentations of one list, there was a short pause and the S was then required to recall the response word when the stimulus word appeared in the memory drum. The recall rate was the same as in the acquisition trials but word order was different. The procedure was then repeated for a second list.

Ss were given the following instructions:

> "I am going to show you some pairs of words through this slit here. I want you to say both words out loud when you see them and try to remember as many as you can. Afterwards, I will show you the first word of each pair (the word on the left-hand side) and you will tell me the second word of the pair (the one on the right-hand side). O. K. I will show you all the words first and you'll read them out loud. O. K."

After a verbal conditioning task (see below), S was again presented with the 10 stimulus words and required to recall response words from whichever list he could remember. The stimulus words were presented at the same 2 : 2 sec. rate as during acquisition but in a different randomized order.

Verbal Conditioning. The procedure was similar to Taffel's (1955), using the cards developed by Chambers (1962). There were 120 white index cards, 3" x 5", each with a verb in past tense typed in capital letters in the centre of the card. Under the verb were five personal pronouns, I, HE, SHE, WE, and YOU, in counterbalanced order. The cards were made into six decks of 20 each under the provision that for every deck each pronoun appeared in first position four times. Card position within each deck was randomly determined. A

practice deck of five cards was used. Cards A to D carried a verb and the first name MARY, JOHN, ALICE or TOM. Card E had a verb and all the four names on it.

Ss were given the following instructions:

> "I have some cards here with words on them and I want you to make simple sentences with them. Any sentence will do. For example, on this card here, you have the word IS and the word MARY. You could say, 'Mary is a kind person'. Or on this card you have the words THREW and JOHN. You could say 'John threw the ball'. O. K. Now on this card you have the words TIED and ALICE. You can make a sentence with these two words. Now make a sentence with these two words (SWAM and TOM). And on this card here, you have the word SLEPT and under it four words, MARY, JOHN, ALICE, and TOM. I want you to make up a sentence using one of these four words and the word up top. Now on this card (Card 1), and the following cards, you have five words at the bottom and one word up top. I want you to choose one word from these five at the bottom together with the word up top to make up a sentence. O. K. Any sentence will do and try to work quickly."

The decks of cards were kept out of S's sight with each card being presented individually to S on top of the previous card. Cards 1 to 20 provided a measure of the operant response level and received no reinforcement. Cards 21 to 80 were acquisition trials in which S was reinforced. Two types of reinforcement were used, positive or negative. The Ss were assigned alternately to positive or negative reinforcement as they appeared for testing. Under positive reinforcement, E either said "Yes", "Good", or "That's right" when S gave an I or WE response; and under negative reinforcement, E said "Nd', "That's wrong", or "That's not right" whenever S used HE, SHE,or YOU. Cards 81 to 120 were extinction trials during which no reinforcement was given.

The cards were presented in the same order, in the same manner, and without pause to each S. The Ss, however, were allowed to work at their own pace, and the time taken by each S to complete the 120 trials was recorded.

Results

Information regarding age, education, length of sentence, and time served in jail of the Ss is presented in Table I. The two groups are similar in age, length of sentence, and time served in jail while they differed significantly in educational level. The non-Indian Ss were better educated than the Indian Ss, but as education was found to be uncorrelated with performance measures, it was not further studied. It might be noted also that the offences Ss were sentenced for and their previous employment are similar for both groups, (see Appendix B).

Table I

Sample Characteristics

	Indians (n=39)		Non-Indians (n=38)		t
	$\bar{X}$	SD	$\bar{X}$	SD	
Age	26.28	5.00	27.45	5.94	0.22
Education (Grade)	6.74	1.72	8.66	1.88	6.19**
Length of Sentence (Month)	16.57	22.43	14.63	12.30	0.48
Time served in jail (Month)	5.18	4.62	3.48	3.41	1.87

** $p<0.01$

Questionnaire

An item analysis of the questionnaire[2] indicated that the Indian and non-Indian Ss differed significantly on only 17 of the 68 items. The 17 items, moreover, were distributed over seven of the attitude areas with no differences being observed regarding attitudes towards money. The data suggest that the Indian Ss had more positive attitudes towards sharing with others and towards education.

In an attempt to assess the overall utility of the questionnaire, scores were assigned to each item on a five-point scale (SA=1, A=2, U=3, D=4, SD=5). The total score for each S on the questionnaire was then computed and a significant difference was found between the mean scores of the two groups, the Indian Ss having a lower mean score than the non-Indian Ss ($t = 3.17$, $p < 0.01$) (Table II). Product moment correlations were computed between questionnaire total scores with age and length of sentence, but no significant relationship was found.

In order to investigate the influence of factors of social desirability as postulated by Edwards (1953, 1961) and Taylor (1959, 1961), a further analysis was completed. Five graduate Psychology students, using a three-point scale (socially desirable, neutral, and socially undesirable), rated each questionnaire item in terms of its social desirability. An item was defined as either socially desirable or socially undesirable on the basis of consistency of rating across at least four judges. There were 23 socially desirable items, and 12 socially

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[2]A detailed description of the item analysis of the questionnaire is presented in Appendix F.

undesirable items, according to this criterion. The remaining 33 items were considered to be neutral items.

The questionnaire was then rescored with scores on the 12 socially undesirable items being reversed and combined with scores of the socially desirable items. The two groups did not differ in their total scores on these 35 items (t = 0. 82), nor did they differ in the frequency of giving socially desirable answers (t = 0.11)(Table III). The non-Indian Ss, however, gave significantly more socially undesirable answers than Indian Ss (t = 2.24, $p<0.05$)(Table III). Both groups, on the other hand, gave significantly more socially desirable than undesirable answers ($p<0.01$). It is also of interest to note that the 17 items which differentiated the two groups belong mainly to the neutral category, with only seven items being rated as socially desirable or undesirable.

Scores on the neutral items were also compared. The two groups differed significantly in their mean total scores, the Indian Ss having a lower mean score than the non-Indian Ss (t = 5.19, $p<0.01$) (Table II). This difference was in the same direction as that of the total scores and is postulated as a difference in acquiescence (Lentz, 1938; Cronbach, 1950). In order to investigate this hypothesis further, the cumulative frequency of endorsement of scale points were tabulated for the entire questionnaire and for the neutral items separately (Table III). The Indian Ss used disagreement ratings significantly less often than did the non-Indian Ss for the entire questionnaire (t = 3.28, $p<0.01$). They tended to give agreeing

Table II

Questionnaire Scores

Total Scores	Indians (n=39)		Non-Indians (n=38)		t
	$\bar{X}$	SD	$\bar{X}$	SD	
All items	187.18	14.36	197.79	14.96	3.17**
Socially desirable & undesirable items combined	77.28	9.30	79.11	10.29	0.82
Neutral items	95.38	9.82	106.58	8.89	5.19**

** $p<0.01$

or uncertain ratings more frequently than did the non-Indian Ss, but the differences were not statistically significant. The differences were more marked with the neutral items. The non-Indian Ss used disagreement ratings significantly more often than did the Indian Ss ($t = 4.12$, $p<0.01$), while the Indian Ss used agreement ratings significantly more frequently than did the non-Indian Ss ($t = 2.92$, $p<0.01$)(Table III). Therefore, the Indian Ss appeared to be comparatively more acquiescent than the non-Indian Ss. This suggestion is supported by the significant differences between agreeing and disagreeing responses within each group. Indian Ss gave significantly more agreeing responses than disagreeing responses for the entire questionnaire ($t = 7.97$, $p<0.01$), and differences in the same

Table III

Cumulative Frequency Scores of Questionnaire Scale-Point Uses

Scale-Points	Indians (n=39)		Non-Indians (n=38)		t
	$\bar{X}$	SD	$\bar{X}$	SD	
All items: Combined "Agree" & "Strongly Agree"	33.64	6.21	31.16	5.49	1.84
"Uncertain"	12.92	6.92	9.58	8.76	1.83
Combined "Disagree" & "Strongly disagree"	21.44	7.13	27.26	8.17	3.28**
Socially desirable-undesirable items: Combined "Agree" & "Strongly Agree"	24.85	3.21	24.76	4.37	0.11
"Uncertain"	5.05	2.91	3.71	3.80	1.72
Combined "Disagree" & "Strongly Disagree"	5.15	2.04	6.53	3.16	2.24*
Neutral items: Combined "Agree" & "Strongly Agree"	13.51	4.27	10.79	3.81	2.92**
"Uncertain"	7.87	4.80	5.87	5.41	1.69
Combined "Disagree" & "Strongly Disagree"	11.62	5.00	16.34	4.89	4.12**

* $p < 0.05$
** $p < 0.01$

direction were observed in the neutral items (t = 1.77). Non-Indian Ss, on the other hand, gave significantly more disagreeing responses than agreeing responses for the neutral items (t = 5.44, $p<0.01$).

Sydiaha and Rempel (1964) and Harding (1964) have suggested that differences between Indian and non-Indian Ss are related to differences in location of residence rather than to ethnicity. In an attempt to evaluate this suggestion, the data of the Indian group were analysed according to the geographical origin of the Ss. Indian Ss brought up north of Saskatoon were assigned to the Northern Indian group (n=17), those brought up south of Saskatoon comprised the Southern Indian group (n=16), and Ss of mixed Indian and White ancestry composed the Metis group (n=6). An item analysis of the questionnaire across the three subgroups identified only three items which significantly differentiated between them (Items 30, 31, 46). An analysis of variance was also computed comparing the total scores of the subgroups on the questionnaire (Table IV). None of the differences was significant.

Table IV

Analysis of Variance of Questionnaire Total Scores of Northern and Southern Indians and Metis

Source	SS	df	MS	F
Between	128	2	64.00	0.29
Within	7907	36	219.63	
Total	8035	38		

Paired-Associate Learning

The paired-associate learning data consisted of two main scores, acquisition and delayed recall scores (see Appendix G). Acquisition scores were the number of correct items recalled immediately after the third presentation of the word pairs, and delayed recall scores were the number of correct items recalled from either list after an intervening verbal conditioning task.

The data were analysed using analyses of variance (Tables V, VI). There were no significant group differences between Indian and non-Indian Ss. A more detailed analysis of acquisition scores by t test, however, showed that the Indian Ss acquired the rural list more reliably than the urban list ($t = 2.17$, $p < 0.05$), while the acquisition levels of the non-Indian Ss did not differ for the two lists ($t = 0.77$). The same trend could be observed in the delayed recall scores although the differences were not statistically significant. The Indian Ss recalled more items from the rural list than from the urban list ($t = 1.80$), while the non-Indian Ss recalled both lists at the same level of efficiency ($t = 0.05$).

In order to see whether learning was influenced by word length, product-moment correlations were computed between response word length and acquisition. A significant relationship was found between word length and acquisition for the non-Indian Ss ($r = -0.44$, $p < 0.05$), the shorter words being learned more reliably. The correlation, while having the same direction, was not significant for the Indian Ss ($r = -0.34$). Therefore, the superior learning of the Indian Ss of the

Table V

Analysis of Variance of Paired-Associate Acquisition of Indian and Non-Indian Ss

Source	SS	df	MS	F
Rural x urban lists	11.89	1	11.89	2.49
Subjects	5.92	1	5.92	1.24
Interaction	2.74	1	2.74	0.57
Within	716.87	150	4.78	
Total	737.42	153		

Table VI

Analysis of Variance of Paired-Associate Delayed Recall of Indian and Non-Indian Ss

Source	SS	df	MS	F
Rural x urban lists	10.69	1	10.69	2.12
Subjects	1.84	1	1.84	0.37
Interaction	11.78	1	11.78	2.34
Within	756.06	150	5.04	
Total	780.37	153		

rural list over the urban list was independent of word length. Product-moment correlations of word length and delayed recall were not significant for either non-Indian Ss ($r = -0.24$) or Indian Ss ($r = -0.33$).

A further attempt to assess differences attributed to geographical location was made by analysing the acquisition scores of the three Indian subgroups. None of the differences was significant, as shown by the analysis of variance (Table VII). The non-Indian sample was also subdivided into two groups according to the environment in which they had been brought up. Those who grew up in cities were considered as the urban group, and those who grew up in small towns, villages, or farms were considered as the rural group. The analysis of variance, however, indicated no significant differences (Table VIII).

Verbal Conditioning

Conditioning scores were tabulated in terms of level scores and change scores (see Appendix H). Level scores were performance means over blocks of trials under operant, acquisition, and extinction conditions; whereas change scores were mean differences between levels. Indian Ss and non-Indian Ss conditioned significantly under both positive and negative reinforcements (Tables IX, X). Conditioning under positive reinforcement was highly significant ($p < 0.01$) for both Indian and non-Indian Ss. Under negative reinforcement, significant acquisition was demonstrated by the non-Indian Ss ($p < 0.01$) whereas the Indian Ss evidenced significant conditioning only during

Table VII

Analysis of Variance of Paired-Associate Acquisition of Northern and Southern Indians and Metis

Source	SS	df	MS	F
Rural x urban lists	15.47	1	15.47	2.98
Subjects	6.29	2	3.15	0.61
Interaction	5.69	2	2.90	0.56
Within	374.68	72	5.20	
Total	402.23	77		

Table VIII

Analysis of Variance of Paired-Associate Acquisition of Rural and Urban Non-Indian Ss

Source	SS	df	MS	F
Rural x Urban lists	0.76	1	0.76	0.17
Subjects	4.38	1	4.38	0.96
Interaction	11.09	1	11.09	2.42
Within	275.06	60	4.58	
Total	291.29	63		

Table IX

Verbal Conditioning Change Scores

(Under Positive Reinforcement)

Trials	Indians (n=19)			Non-Indians (n=19)		
	$\bar{D}$	$S\bar{D}$	t	$\bar{D}$	$S\bar{D}$	t
Operant-Acquisition	-3.72	0.68	5.46**	-3.65	0.80	4.54**
Operant-Extinction	-4.42	1.09	4.04**	-4.87	0.92	5.27**
Acquisition-Extinction	-0.70	0.69	1.01	-1.22	0.78	1.56

** $p < 0.01$

Table X

Verbal Conditioning Change Scores

(Under Negative Reinforcement)

Trials	Indians (n=20)			Non-Indians (n=19)		
	$\bar{D}$	$S\bar{D}$	t	$\bar{D}$	$S\bar{D}$	t
Operant-Acquisition	2.13	1.32	1.61	3.04	0.62	4.91**
Operant-Extinction	3.70	1.55	2.39*	4.53	1.20	3.78**
Acquisition-Extinction	1.57	0.71	2.21*	1.49	0.83	1.80

* $p < 0.05$

** $p < 0.01$

the extinction series ($p < 0.05$).

Neither group evidenced extinction effects under either type of reinforcement. In fact, the change scores indicate that response bias was increasing during the extinction period, even though reinforcement was withheld[3].

Analyses of variance of level and change scores of Indian and non-Indian Ss under either positive or negative reinforcement (Tables XI - XVI) did not reveal any significant group differences. An analysis of variance of acquisition change scores of the Indian subgroups (Northern and Southern Indians, and Metis) also failed to indicate significant differences among the subgroups, nor were positive and negative reinforcements associated with differential conditioning (Table XVII).

Table XI

Analysis of Variance of Operant Level Scores

of Indian and Non-Indian Ss under Positive and Negative Reinforcement

Source	SS	df	MS	F
Reinforcement	3.82	1	3.82	0.32
Subjects	11.13	1	11.13	0.93
Interaction	14.42	1	14.42	1.20
Within	874.54	73	11.98	
Total	903.91	76		

[3]When questioned after the experiment, most Ss reported that they did not notice anything being said by E during the experiment.

Table XII

Analysis of Variance of Acquisition Level Scores

of Indian and Non-Indian Ss under Positive and Negative Reinforcement

Source	SS	df	MS	F
Reinforcement	0.44	1	0.44	0.04
Subjects	13.75	1	13.75	1.36
Interaction	14.90	1	14.90	1.48
Within	736.98	73	10.10	
Total	766.07	76		

Table XIII

Analysis of Variance of Extinction Level Scores

of Indian and Non-Indian Ss under Positive and Negative Reinforcement

Source	SS	df	MS	F
Reinforcement	7.36	1	7.36	0.27
Subjects	8.41	1	8.41	0.30
Interaction	27.58	1	27.58	1.00
Within	2017.71	73	27.64	
Total	2061.06	76		

Table XIV

Analysis of Variance of Operant-Acquisition Change Scores of Indian and Non-Indian Ss under Positive and Negative Reinforcement

Source	SS	df	MS	F
Reinforcement	21.40	1	21.40	1.35
Subjects	2.75	1	2.75	0.18
Interaction	3.83	1	3.83	0.24
Within	1156.19	73	15.84	
Total	1184.17	76		

Table XV

Analysis of Variance of Operant-Extinction Change Scores of Indian and Non-Indian Ss under Positive and Negative Reinforcement

Source	SS	df	MS	F
Reinforcement	5.93	1	5.93	0.21
Subjects	7.10	1	7.10	0.25
Interaction	0.88	1	0.88	0.03
Within	2079.77	73	28.49	
Total	2093.68	76		

Table XVI

Analysis of Variance of Acquisition-Extinction Change Scores of Indian and Non-Indian Ss under Positive and Negative Reinforcement

Source	SS	df	MS	F
Reinforcement	6.88	1	6.88	0.62
Subjects	1.13	1	1.13	0.10
Interaction	2.06	1	2.06	0.19
Within	804.95	73	11.03	
Total	815.02	76		

Table XVII

Analysis of Variance of Operant-Acquisition Change Scores of Northern and Southern Indians and Metis under Positive and Negative Reinforcement

Source	SS	df	MS	F
Reinforcement	32.15	1	32.15	1.76
Subjects	10.54	2	5.27	0.29
Interaction	78.81	2	39.41	2.16
Within	601.94	33	18.24	
Total	723.44	38		

The performance rates or time scores (see Appendix I), recorded for each S for the 120 trials, were also analysed and significant differences were found between Indian and non-Indian Ss, but not between positive and negative reinforcements (Table XVIII). The Indian Ss took longer than the non-Indian Ss to go through the 120 sentence construction trials ($F = 16.08$, $p < 0.01$). Performance rate within each group, however, was constant across reinforcement conditions ($F = 3.52$).

In order to assess the relationship between age, conditioning acquisition and time scores, product-moment correlations were computed between these variables. None of the correlations, however, was significant.

Table XVIII

Analysis of Variance of Verbal Conditioning Performance Rate of Indian and Non-Indian Ss under Positive and Negative Reinforcement

Source	SS	df	MS	F
Reinforcement	185.08	1	185.08	3.52
Subjects	846.63	1	846.63	16.08**
Interaction	108.79	1	108.79	2.07
Within	3843.27	73	52.65	
Total	4983.77	76		

** $p < 0.01$

A correlational analysis was undertaken to assess whether ethnicity was differentially associated with the response parameters studied. Product-moment correlations were computed between the different variables involved: questionnaire scores, age, time served in jail, percentage of the sentence remaining to be served, paired-associate acquisition scores, verbal conditioning acquisition change scores, and verbal conditioning time scores. Only three correlations were significant. The product-moment correlation between the questionnaire total scores and acquisition on verbal conditioning under positive reinforcement was significant for Indian Ss ($r = +0.68$, $p < 0.01$), but the correlation was not significant for non-Indian Ss ($r = -0.30$). A significant positive relationship was found between the percentage of the sentence remaining to be served and acquisition of rural paired-associates for non-Indian Ss ($r = +0.44$, $p < 0.05$), but not for Indian Ss ($r = -0.09$). The correlation between time served in jail and acquisition on verbal conditioning under negative reinforcement was significant for the non-Indian Ss ($r = -0.54$, $p < 0.02$), but the correlation was not significant for Indian Ss ($r = +0.02$).

In order to broaden the scope of this study, comparisons were made with the data reported by Chambers (1962). The conditioning data for Indian and non-Indian Ss were combined (Jail Ss) as no significant differences had been found between them, and then the combined scores were compared to the verbal conditioning scores of unemployed normals and penitentiary inmates in Chambers' study.

Significant differences were found, using the t test, between the change scores of Jail Ss and Unemployed Ss (Operant-Acquisition, $t = 10.00$, $p < 0.01$; Operant-Extinction, $t = 8.32$, $p < 0.01$). Significant differences were also obtained between the change scores of Jail Ss and Penitentiary Ss (Operant-Acquisition, $t = 20.59$, $p < 0.01$; Operant-Extinction, $t = 6.99$, $p < 0.01$; and Acquisition-Extinction, $t = 12.39$, $p < 0.01$). The differences were particularly marked between jail and penitentiary inmates. The latter group did not condition and evidenced response decrement during the extinction period, while the Jail Ss conditioned significantly and continued to demonstrate the response bias established during acquisition under positive reinforcement.

Discussion

The similarity between the two groups across such demographic variables as age, type of offence, length of sentence, time served in jail, and previous employment, indicate that the Ss were adequately matched to test the main hypothesis of this thesis. This hypothesis, it will be recalled, was that the performance of Indians would differ from that of non-Indians. In other words, that ethnicity is an important behavioural determinant. The results of this study, however, failed to provide strong support for such a hypothesis in that the ethnic groups could not be reliably distinguished in terms of the questionnaire data, paired-associate learning, or verbal conditioning. The intergroup differences that were observed could be attributed to the unreliability of the measures used, and to socio-economic factors with probably more justification than suggesting that the differences were related to ethnicity.

The data of the present research will be discussed in the following order: questionnaire, paired-associate learning, and verbal conditioning.

Questionnaire

The Indian and non-Indian Ss differed significantly on only 17 of the 68 questionnaire items. When the 17 items were considered in relation to the concept areas, they constituted only a minor proportion of the subsections, and their distribution appeared to be random. Harding (1964) suggested that Indians and non-Indians might have different conceptions of authority, but an analysis of the questionnaire

data failed to show any such differences. Sydiaha and Rempel (1964) and Harding (1964) have implied that there are differences between Indians and non-Indians in their awareness of poverty. The data of the present study permitted only an indirect evaluation of this position, but it may be noted that the attitudes towards money of the Indian and non-Indian Ss were the same. Thus, if poverty attitudes are related to monetary attitudes, the data failed to support the position of Sydiaha and Rempel, and Harding. It should be pointed out, however, that the Indian Ss showed more favourable attitudes towards sharing with others and towards education than the non-Indian Ss. The two groups also disagreed significantly about accepting social aid, with the non-Indian Ss willing to accept social aid whereas the Indian Ss were uncertain about acceptance. One reason for this latter difference might be that the Indian Ss differed from the non-Indian Ss in their conception of social aid, but unfortunately, no data were collected regarding this point and, therefore, interpretation based only on two questionnaire items regarding social aid would seem hazardous.

One problem with the use of the questionnaire was that the answers were affected by response sets. When the questionnaire data were analyzed in terms of social desirability, it was found that both groups gave socially desirable responses significantly more often than undesirable answers. Although both groups were similarly affected by this response set, they differed significantly on an acquiescence response set. The non-Indian Ss were more ready to disagree with

questionnaire items while the Indian Ss showed a greater tendency to agree with the items.

If the suggestion that response sets are relevant personality traits (Couch & Keniston, 1960) is accepted, the acquiescence response set evidenced by the Indian Ss could be interpreted as compliance. Such a tendency has been hypothesized by Voget (1957) to be characteristic of the American Indian. He suggested that, when threatened by conquest, poverty, and external cultural forces, such groups would show a striving for social approval. However, Voget's hypothesis is only partially supported as both groups evidenced similar social desirable response sets. It appears, therefore, that ethnicity does not relate to the concept of social desirability while the difference in acquiescence between the two groups could perhaps be explained in terms of the Indians being a minority group acculturating to the majority White society.

When the Indian Ss were subdivided into groups according to their geographical origin, there were even fewer differences to be found among these subgroups than between Indian and non-Indian Ss. An item analysis of the questionnaire identified only three items of the 68 which separated the three subgroups. It must be noted that 17 items of the questionnaire had previously (Harding, 1964) differentiated three groups of Indian children by geographical location, but none of these revealed any significant differences among the Indian subgroups in the present study. An analysis of the questionnaire total scores also failed to distinguish between the three

groups. The comparison, however, was based on an arbitrary division of the Indian Ss according to the location where they grew up in, or according to their parentage (for the Metis group). The Ss of Harding's study, on the other hand, were school children from more homogeneous communities, while the present Ss were adults from different reserves and towns in the province.

The lack of knowledge concerning the questionnaire and the failure of the present study to demonstrate its utility in differentiating between two ethnic groups, plus evidence of the influence of response sets suggest that caution must be exercised in interpreting the questionnaire data.

Paired-Associate Learning

The overall paired-associate learning of the two ethnic groups was very similar. Both Indian and non-Indian Ss acquired and retained the two lists at comparable levels.

The paired-associate design in the present study was purposed to anticipate response competition by pairing two responses with one stimulus word (Barnes and Underwood, 1959). It was predicted that the acquisition of the paired-associates would be interfered with or facilitated by previous experiences (Underwood and Postman, 1960) and that during delayed recall, the emergent responses would be the dominant responses (Underwood & Richardson,1956; Underwood & Schulz, 1960). Therefore, the learning and retention of rural and urban responses were expected to differ according to the Ss' background

environment. Ss of rural background were predicted to evidence dominant rural responses and similarly, Ss with urban background were expected to show biases towards urban responses.

In the present study, the Indian Ss learned the rural list significantly better than the urban list. This was, therefore, interpreted as relating to a dominance of rural responses in comparison to urban responses. However, during delayed recall, this dominance of rural responses over urban responses was not significant. As the free recall procedure adopted was thought to be the more sensitive measure of response dominance (Barnes & Underwood, 1959), it could not be firmly established that the Indian Ss evidenced a rural response bias. The performance of the non-Indian Ss, on the other hand, was a function of word length rather than the dominance of specific response biases.

A comparison across subgroups of Indian Ss divided according to their place of residence revealed few differences. Similarly there were no significant response differences between subgroups of non-Indian Ss with rural or urban backgrounds.

The lack of rural-urban differences amongst the Ss might perhaps be explained by possibilities of population mobility and the narrow range of population density and sizes in this province. According to Dewey (1960), urban and rural were a combination of unconscious influences by demographic factors of density and sizes of population as well as influences of culture. Since the range of population density and sizes is small, there would be few rural-urban differences

between various locations of this province and these differences might have been modified by mobility. It must be remembered, however, that the criterion for rural-urbaness of the paired-associate material was based on ratings by university students and these ratings might have been biased.

Further improvement of the technique, might be achieved by controlling for word length and overlearning. In addition, a better measure of rural-urban concept biases might be arrived at by employing abstract rather than concrete words.

Verbal Conditioning

Verbal conditioning scores were consistent with findings of the questionnaire and paired-associate learning. No differences between Indian and non-Indian Ss either in the level or the rate of conditioning under positive or negative reinforcement were found.

There was, however, greater variance associated with conditioning under negative reinforcement than under positive reinforcement. The Indian Ss, in particular, showed much greater variation in their reaction to negative than to positive reinforcement. They did not condition significantly under negative reinforcement during the acquisition period though they did show conditioning effects during the extinction trials. To an extent, this lack of response consistency under negative reinforcement suggests that positive reinforcement might be a more reliable treatment procedure. Eysenck (1963) has observed, for example, that prison staff seem to be

concerned mainly with retaliation and punishment. Powelson and Bendix (1955) have also emphasized the negative interaction within prisons between guards and inmates. It could be argued, therefore, that the efficacy of negative reinforcement might have been reduced through habituation and misuse in the jail environment. This argument is supported by the significant negative correlation between time served in jail and the level of verbal conditioning under negative reinforcement demonstrated by non-Indian Ss. Moreover, the personal data showed that most Ss had previous experiences of imprisonment. Therefore, the detrimental effects on negative reinforcement might have been established gradually through previous imprisonments.

It has been demonstrated by Gewirtz and Baer (1958 a, b), Erickson (1961), and Stevenson and Odom (1962) that deprivation of a social reinforcer such as "Good", would enhance its efficacy in influencing performance while satiation would decrease its efficacy. Following a similar argument, the efficacy of negative reinforcement might have been partially satiated for the present Ss and therefore, it produced greater variances in behaviour.

When the present Ss (jail Ss) were compared to the penitentiary Ss in Chambers' study (1962) on conditioning acquisition under positive reinforcement, the jail Ss evidenced greater response changes under positive reinforcement. The jail Ss and penitentiary Ss were comparable in age, education as well as the type of offence. They

differed in the time served in jail and in their prison environment. It appears, therefore, that the longer time served in jail, as in the case of the penitentiary Ss, might have contributed to reducing the efficacy of positive reinforcers. However, neither Chambers nor the present study was able to demonstrate a significant relationship between time served in jail and conditioning performance under positive reinforcement. The limited range of institutional time served by the samples studied might have militated against the possibility of showing significant relationships. Perhaps the efficacy of positive reinforcers is not a function of institutionalization or deprivation, but is rather a reflection of the environment and the type of reinforcement Ss have been subjected to in the past (Chambers, 1962; Davitt, 1964). Mednick and Lindsley (1958) have suggested that conditioning rate may reflect adaptability and sensitivity to social and physical environments. The result of the comparison between the data of the present study and those of Chambers' study might, therefore, be interpreted as evidence suggesting that the environment of the provincial jail is more congenial for preserving social sensitivity.[4]

The comparison between the jail Ss and Chambers' unemployed Ss in conditioning under positive reinforcement also seem to suggest that the level of conditioning is not a direct function of institu-

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[4]The inmates at the provincial jail were given considerable freedom inside the prison. Most of them were employed during the day time and they were locked in their cells only after the evening roll call, while the penitentiary sample studied by Chambers were spending 18 hours per day locked in their cells.

tionalization because the jail Ss conditioned to a higher level than the unemployed Ss who were not even institutionalized. Perhaps it could be proposed that the environment of the jail is more conducive to behaviour changes than the insecure environment experienced by the unemployed, or that the unemployed Ss had been exposed to more inappropriate uses of positive reinforcement than the jail Ss. Therefore, the efficacy of positive reinforcement has been greatly reduced for the unemployed Ss.

The differences, on the other hand, might also be due to a difference in experimenters. Studies investigating the effects of experimenter variables in conditioning, however, have reported controversial results. Binder, McConnell, and Sjoholm (1957) observed a difference between male and female Es in conditioning hostile verbal responses. Kanfer (1958), Campbell (1960), and Ekman and Friesen (1960) have also reported interactions between the personality of Es and Ss in verbal conditioning. Matarazzo, Saslow, and Paresis (1960), on the other hand, found no differences between two different Es in conditioning the same group of Ss, while Blaufarb (1961), and Glucksberg and Lince (1962) reported no significant differences in conditioning due to differences in status or rank of the E. Therefore, the suggestion that differences between the present study and Chambers' study in verbal conditioning levels as due to experimenter differences, could only be made tentatively.

An interesting negative correlation was observed between verbal conditioning acquisition under positive reinforcement and questionnaire

total scores for the Indian Ss and a correlation having the same trend was also noted for the non-Indian Ss. It appears, therefore, that the greater the response change under positive reinforcement corresponded with a greater readiness to agree with questionnaire items (the lower the total questionnaire score). Sarason (1958) has reported a similar relationship between verbal conditioning and psychotherapists' ratings of compliance of psychotic patients. Crowne and Strickland (1961), and Marlowe (1962) have also demonstrated that verbal conditioning was positively related to the need for social approval. Therefore, further support is provided for Mednick and Lindsley's suggestion (1958) that social sensitivity is associated with high conditioning rate. The fact that high levels of conditioning were evidenced by the present Ss supports the interpretation that the jail was more reliably maintaining social sensitivity than was the penitentiary, and therefore that the jail environment was the superior one.

Summary

Two groups of Ss, Indian and non-Indian, resident in a provincial jail were administered a questionnaire pertaining to attitudes towards: work, education, family, money, sharing with others, ethnic association, self-assertion, and institutional and social controls. They were also tested individually on a paired-associate task where the ability of each group to learn and to recall rural and urban paired-associates was compared. Their responsivity to positive or to negative verbal reinforcement was also assessed through a verbal conditioning task.

Analyses of the data revealed few significant intergroup differences. Indians and non-Indians showed similar attitudes and values and were comparable in their ability to learn paired-associates and in their performance under verbal reinforcement. The response acquisition of Indians and non-Indians was, therefore, comparable. In other words, ethnicity did not appear to be a major contributing factor to intergroup differences. The data were interpreted as lending support to the hypothesis that when the environment and/or socio-economic factors are comparable across groups, behaviour is also comparable. The data were also discussed with regard to the possibility of assessing environmental factors through an evaluation of reinforcer efficacies.

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Appendix A

Personal Data Sheet

Name_____ Sex: (check one)

Age _____ Male _____

Birthdate_____ Female_____
Day Month Year

Where did you grow up?

Check one or more: Type of Community — Name of place and Province

_____ Reserve _____
_____ Farm _____
_____ Bush _____
_____ Village of small town _____
_____ City _____
_____ Moved around too much to say _____

Name of city, town or post office you lived at before you came here:

_____ Approximate population _____

Religion:
(Check one)

Roman Catholic _____
Anglican _____
United Church_____
Other _____ (please write in)

Father's Name _____ Mother's Name _____
Father's Occupation_____ Mother's Occupation _____

Background of Father: (check one)	Background of Mother: (check one)
English Canadian _____	English Canadian _____
French Canadian _____	French Canadian _____
Indian _____	Indian _____
English, Irish, Scottish _____	English, Irish, Scottish _____
Scandinavian _____	Scandinavian _____
Ukrainian _____	Ukrainian _____
Russian _____	Russian _____
German _____	German _____
French _____	French _____
Other _____	Other _____

Paid employment (check any of the following you have done for pay during the past two years:

Trapping _____
Fishing _____
Fire fighting _____
Logging _____
Guiding _____
Construction _____
Farm Labour _____
Mink-ranching _____
Berry picking _____
Prospecting _____
Others (please write in) _____
_____

How long have you lived in the North _____
Are you married? _____
How many children do you have? _____
What languages do you speak ? _____
How many years of school have you completed _____ (Grade)
At what age was that grade finished _____

Information regarding the Ss from the Personal Data Sheet

Employment during the two years prior to sentence:

Indians		Non-Indians	
Farm labour	24	Construction	10
Construction	13	Skilled labour	7
Logging	13	Farm labour	6
Fishing	7	Logging	3
Fire fighting	6	Others	10
Trapping	4	Unemployed	9
Skilled labour	1		
Others	12		
Unemployed	1		

Religious affiliation:

	Indians	Non-Indians
Roman Catholic	28	12
Anglican	5	10
United Church	4	11
Others	2	5

Tribal origin of Indian Ss:

22 Cree - 17 from north of Saskatoon, 5 from south of Saskatoon

9 Saulteaux - all from south of Saskatoon

1 Assiniboine - " " " " "

1 Icelandic - " " " " "

6 Metis - all from north of Saskatoon

Rural-urban origion of Ss:

	Reserve	Village of Small Town	City	Moved about (highly mobile)
Indians	26	8	1	4
Non-Indians	0	13	19	6

Appendix B

Offences under which the Ss were sentenced

Indians and Metis (n = 39) - First offenders, n = 15

20 Unlawful breaking and entering a place and/or wilful damage of property

16 Theft of money and/or property

9 Assault

5 Intoxication

4 Indecent assault of female or indecent acts

3 False pretences and defraud and/or Forgery

2 Driving offence

1 Possession of stolen property

1 Murder

1 Escape from custody

(Some cases were charged and sentenced for more than one offence)

Non-Indians (n = 38) - First offenders, n = 9

14 Unlawful breaking and entering a place and/or wilful damage of property

12 Theft of money and/or property

7 False pretences and defraud and/or Forgery

6 Driving offence

4 Assault and/or Disturbance

4 Indecent assault of female and/or indecent acts

3 Rape

3 Intoxication

3 Possession of stolen property

1 Perjury

1 Possession of offensive weapon

Appendix C

Questionnaire

Instructions:

"The following pages contain a series of statements. Read each one and decide how you feel about it, and then mark your answer opposite each statement.

SA -- Strongly agree
A -- Agree
U -- Undecided
D -- Disagree
SD -- Strongly disagree

For example: Life in the country is much more fun than life in the city. SA __ A __ U __ D x SD __. In this case the person answering feels that he disagrees with the statement and has shown his answer by placing a mark after the 'D' meaning that he disagrees."

Questionnaire items:

1. If a person likes his job, the money is not so important.

2. I like to get work at different places.

3. When a person earns some money he should spend some of it on his friends.

4. I find it hard to understand people.

5. Every man should learn a trade.

6. It is customary for relatives to help one another.

7. People often disappoint me.

8. I would rather have a steady job than many jobs that don't last long.

9. I would like to have a large family (Five or more children).

10. If I didn't have to, I wouldn't work.

11. I would rather work with a white man than with an Indian.

12. I looked up to my father as an ideal man.

13. I was always glad when I could miss school.

14. I like to work in the field rather than in a factory.

15. I feel proud of relatives who had done well.

16. A person should always pay immediately for what he buys.

17. I would rather have Indian friends than white friends.

18. I would not trade places with anybody.

19. I never found time to do my school homework.

20. Money is the important reason for getting a job.

21. It is all right to get around the law if you actually don't break it.

22. One of my aims in life is to accomplish something that would make my father proud of me.

23. When a person has a job he should come to work on time every day.

24. I would like my children to go to university.

25. I like to laugh at people when they make mistakes.

26. If I hurt someone's feelings it is enough if I apologize and square it with my own conscience, regardless of whether he accepts the apology or not.

27. I would like to marry a white person.

28. My parents often brag that I have a job.

29. I would like to improve conditions at home.

30. I liked to show things I made or did to other children when I was in school.

31. A person should not accept social aid under any conditions.

32. I liked getting a high mark in school <u>only</u> if I felt that I had worked hard for it.

33. A person should not ask for social aid unless he absolutely has to.

34. I don't mind helping my friends with my money.

35. I should have won a prize for my neat school work.

36. A person should be able to borrow what he needs from his friends.

37. I think I have a pretty strong influence on others.

38. A father has the right to expect unquestioning obedience from his son.

39. When I earn some money, I quit work and spend it.

40. When things go wrong I sometimes blame the other fellow.

41. It is all right to spend all the money I earned.

42. A person should never argue with his boss.

43. I never did anything at home.

44. I like reading books.

45. I would not like a job away from home.

46. A person learns more from a job than in school.

47. Money by itself doesn't mean much.

48. It's better to live off a trap-line than to hold a job.

49. My way of doing things is apt to be misunderstood by others.

50. Homework from school was more fun than doing chores around home.

51. Being in jail is not so bad.

52. I don't blame anyone for grabbing all he can get in this world.

53. If a person is not using something, it is all right to take it without asking.

54. I don't like to sit around with nothing to do.

55. When I earn some money I always give some of it to my family.

56. School is useful in teaching knowledge.

57. I must admit that I often try to get my own way regardless of what others may want.

58. Once I left home, I would not care to go back.

59. One should never waste food.

60. I would lend anything of mine to someone who asked for it.

61. I like to buy gifts for my family.

62. It is important to have some money in the bank.

63. It doesn't matter to me who borrows my belongings.

64. I like to lend things to my friends.

65. I would rather have people dislike me than look down on me.

66. At times I have been so entertained with the cleverness of a crook that I have hoped he would get away with it.

67. I have never had a job I liked.

68. A person shouldn't be punished for breaking a law that he thinks is unreasonable.

Appendix D

Paired-Associates

Rural List	Urban List
School - Fun	School - Science
Dog - Fish	Dog - Chain
Father - Chief	Father - Church
Spring - Rain	Spring - Lock
Wood - Axe	Wood - Table
Reserve - Home	Reserve - Calm
Help - Friend	Help - Doctor
Meal - Hunger	Meal - Time
Fence - Wire	Fence - Garden
Wage - Day	Wage - Hour

Appendix E

Verbal Conditioning

Stimulus Verbs in order of Presentation

Operant	Acquisition			Extinction	
1. saved	21. came	41. rode	61. closed	81. dressed	101. cleaned
2. stepped	22. accepted	42. made	62. offered	82. returned	102. said
3. faced	23. admitted	43. covered	63. ran	83. liked	103. carried
4. led	24. used	44. felt	64. grew	84. reached	104. attempted
5. guided	25. ran	45. sang	65. rolled	85. saw	105. cooked
6. cut	26. talked	46. owned	66. lived	86. added	106. forgot
7. spoke	27. stopped	47. wanted	67. became	87. changed	107. agreed
8. gave	28. danced	48. named	68. met	88. rushed	108. counted
9. worked	29. walked	49. filled	69. went	89. wished	109. circled
10. opened	30. got	50. crossed	70. sat	90. ordered	110. reported
11. listened	31. started	51. cared	71. replied	91. picked	111. promised
12. proved	32. read	52. dropped	72. asked	92. painted	112. played
13. waited	33. colored	53. knew	73. built	93. paid	113. acted
14. sold	34. ended	54. hoped	74. brought	94. let	114. handed
15. looked	35. caught	55. demanded	75. sent	95. shopped	115. answered
16. called	36. needed	56. fell	76. kept	96. appeared	116. relieved
17. rested	37. heard	57. passed	77. gathered	97. tole	117. moved
18. held	38. found	58. helped	78. spread	98. refused	118. tried
19. smiled	39. pointed	59. sat	79. put	99. finished	119. shared
20. stood	40. caused	60. took	80. laughed	100. left	120. began

Appendix F

Analysis of the Questionnaire

Item analysis of the questionnaire identified 17 of the 68 items which differentiated the two groups of Ss significantly. These items are discussed as below in relation to the concept areas to which they belong.

The most notable differences were in the Ss attitude towards sharing with others. Indians and non-Indian Ss differed significantly in 3 out of 7 items on this concept (36, 60, 63).[5] Indian Ss were more affirmative in agreeing about lending and borrowing from friends.

The two groups differed significantly on 5 of the 11 items concerning work. The non-Indians held a more positive attitude towards work. They agreed more than the Indian Ss did that they did not like to sit around with nothing to do and that every man should learn a trade (54, 5). But the Indian Ss had greater esteem for the authority of the boss and disagreed strongly about not working when there was no to (42, 10). The non-Indian Ss, however, were less affirmative about never having a job that they liked (67).

The Indian Ss had a more positive attitude towards school and education in 3 of the 10 items that differentiated them significantly from the non-Indian Ss. They did not agree with being glad for missing school as the non-Indians did; and they agreed that homework from school was more fun than doing chores around home while the non-Indian Ss disagreed, (13, 35, 50).

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[5]The numbers within the brackets indicate the number of the questionnaire item.

Two of the 12 items concerning family and kinship significantly differentiated the two groups (9, 15). Indian Ss had a stronger sense of kinship than did the non-Indian Ss.

There were two items (26, 31) which differentiated the two groups significantly on self-assertion. The Indian Ss agreed more strongly that an apology was enough to amend hurting other people's feelings. The non-Indian Ss did not agree with the items about not accepting social aid while the Indian Ss were uncertain about acceptance.

Of the five items on ethnic association, only one succeeded in differentiating the Indian Ss from the non-Indian Ss. The Indian Ss were uncertain about wishing to marry a white person while the non-Indian Ss agreed (27).

One of the nine items regarding attitude towards institution and social control distinguished between Indian and non-Indian Ss. The non-Indian Ss admitted admiration for the cleverness of a crook while the Indian Ss were uncertain about it (66).

Appendix G

Table XIX

Paired-Association Acquisition Scores

	Indians (n=39)		Non-Indians (n=38)	
	$\bar{X}$	SD	$\bar{X}$	SD
Rural List	7.46	1.97	7.63	1.84
Urban List	6.62	2.30	7.34	2.13

Table XX

Paired-Associate Delayed Recall Scores

	Indians (n=39)		Non-Indians (n=38)	
	$\bar{X}$	SD	$\bar{X}$	SD
Rural List	4.21	2.06	3.89	2.23
Urban List	3.13	1.71	3.92	2.13

Appendix H

Table XXI

Verbal Conditioning Level Scores:

Conditioned Responses (I and WE)

Under Positive Reinforcement

Trial Series	Indians (n=19)		Non-Indians (n=19)	
	$\bar{X}$	SD	$\bar{X}$	SD
Operant	7.79	3.27	7.89	2.15
Acquisition	11.51	3.35	11.54	3.09
Extinction	12.21	3.41	12.76	3.98

Table XXII

Verbal Conditioning Level Scores

Conditioned Response (HE, SHE, and YOU)

Under Negative Reinforcement

Trial Series	Indians (n=20)		Non-Indians (n=19)	
	$\bar{X}$	SD	$\bar{X}$	SD
Operant	10.90	4.53	12.53	3.00
Acquisition	8.77	4.97	9.49	3.85
Extinction	7.20	4.88	8.00	5.29

Appendix I

Table XXIII

Verbal Conditioning Performance Rate

	Indians (n=39)		Non-Indians (n=38)	
	$\bar{X}$	SD	$\bar{X}$	SD
Positive reinforcement	15.32	7.43	11.05	4.57
Negative reinforcement	20.81	9.74	11.78	5.18